

Form PTO-1449  
(REV. 8-83)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.

015685.P031

SERIAL NO.

09/676,887

APPLICANT

Roger Rogard

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## INFORMATION DISCLOSURE CITATION

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## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
<i>DR</i>	3,704,465	11/28/72	Masak et al.	—	—	
<i>DR</i>	3,774,209	11/20/73	Fleming et al.	—	—	
<i>DR</i>	3,798,645	03/19/74	Baurle et al.	—	—	
<i>DR</i>	3,852,749	12/03/74	Kohler	—	—	
<i>DR</i>	3,946,385	03/23/76	Ewen	—	—	
<i>DR</i>	4,005,379	01/25/77	Lerner	—	—	
<i>DR</i>	4,035,746	07/12/77	Covington Jr.	—	—	
<i>DR</i>	4,085,319	04/18/78	Deitz et al.	—	—	
<i>DR</i>	4,128,740	12/05/78	Graziano	—	—	
<i>DR</i>	4,263,568	04/21/81	Nemit	—	—	
<i>DR</i>	4,316,191	02/16/82	Sawatari et al.	—	—	

## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
<i>DR</i> 2 237 706 A	5/8/91	United Kingdom	—	—	
<i>DR</i> 2 295 524 A	5/29/96	United Kingdom	—	—	
<i>DR</i> 2 313 261 A	11/19/97	United Kingdom	—	—	

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

<i>DR</i>	Agee, "Blind Separation and Capture of Communication Signals Using A Multitarget Constant Modulus Beamformer", 10/7/89 Proc. IEEE Military Communications Conference, Vol. 2, pp. 1-12.
<i>DR</i>	Aschied et al., "An All Digital Receiver Architecture for Bandwidth Efficient Transmission at High Data Rates", 1989, IEEE Transactions on Communications, Vol. 37, No. 8, pp. 804-813.

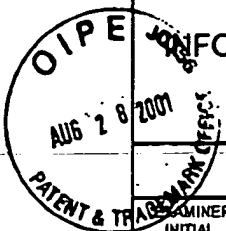
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00	4,375,622	03/01/83	Hollingsworth et al.			
	4,434,505	02/28/84	Gutleber			
	4,475,010	10/02/84	Huensch et al.			
	4,626,859	12/02/86	Stansfield			
	4,639,732	01/27/87	Acoraci et al.			
	4,639,914	01/27/87	Winters			
	4,658,096	04/14/87	West, Jr. et al.			
	4,737,794	04/12/88	Jones			
	4,737,975	04/12/88	Shafer			
	4,742,356	05/03/88	Kuipers			
✓	4,750,147	06/07/88	Roy, III et al.			

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## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
					YES	NO
0 639 035 A1	2/15/95	EPO				
0 713 261 A1	5/22/96	EPO				
0 777 400 A2	6/4/97	EPO				

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

0	Franks, "Synchronization Subsystems: Analysis and Design", 1981, Digital Communications Satellite/Earth Station Engineering, pp. 294-335.
0	Friedlander, "Direction Finding Using an Interpolated Array", 4/3/90, International Conference on Acoustics, Speech, and Signal Processing, Vol. 5, pp. 2951-2954.
0	Friedlander et al., "Direction Finding for Wideband Signals Using an Interpolated Array", 1991, IEEE Publication, pp. 583-587.

EXAMINER

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RO	4,775,997	10/04/88	West Jr. et al.			
	4,796,291	01/03/89	Makino			
	4,827,395	05/02/89	Anders et al.			
	4,829,554	05/09/89	Barnes et al.			
	4,837,800	06/06/89	Freeburg et al.			
	4,855,748	08/08/89	Brandao et al.			
	4,910,794	03/20/90	Mahany			
	4,922,517	05/01/90	West, Jr. et al.			
	4,926,186	05/15/90	Kelly et al.			
	4,940,963	07/10/90	Gutman et al.			
	4,947,452	08/07/90	Hattori et al.			

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## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
					YES	NO
95/34103	12/14/95	WO				
98/01963	1/15/98	WO				
98/17037	4/23/98	WO				

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

RO	Ganz et al., "A Data-Derived Reference Signal Technique for Adaptive Arrays", IEEE Transactions on Communications, Vol. 37, No. 9, 9/1989, pp. 975-983.
RO	Ittis et al., "A Digital DS Spread-Spectrum Receiver With Joint Channel and Doppler Shift Estimation", IEEE Transactions on Communications, Vol. 39, No. 8, 8/1991, pp. 1255-1267.

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## U.S. PATENT DOCUMENTS

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00	4,955,082	09/04/90	Hattori et al.	—	—	
	4,965,732	10/23/90	Roy, III et al.			
	4,965,849	10/23/90	Kunihiro			
	4,965,850	10/23/90	Schloemer			
	4,972,151	11/20/90	Rosen			
	4,989,204	01/29/91	Shimizu et al.			
	5,041,833	08/20/91	Weinberg			
	5,052,799	10/01/91	Sasser et al.			
	5,093,924	03/03/92	Toshiyuki et al.			
	5,103,459	04/07/92	Gilhausen et al.			
✓	5,109,535	04/28/92	Kume et al.			

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## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
					YES	NO
00 98/17071	4/23/98	WO	—	—		

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

00	Lee et al., "Decision Directed Carrier Recovery - Chapter 16: Carrier Recovery", 1994 Digital Communications, 2nd Edition, Kluwer Academic Pub., pp. 725-736.
00	Lee et al., "Decision Directed Carrier Recovery - Chapter 17: Timing Recovery", 1994 Digital Communications, 2nd Edition, Kluwer Academic Pub., pp. 737-764.
00	Lundell et al., "Applications of the Constant Modulus Adaptive Beamformer to Constant and Non-Constant Modulus Signals", Proceedings, 1998 Asilomar Conference on Signals, Systems, and Computers (ACSSC-1998), pp. 432-436.

EXAMINER

Tuan Phan

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## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
JS	5,124,697	06/23/92	Moore	—	—	
	5,142,253	08/25/92	Mallavarpu et al.			
	5,159,593	10/27/92	D'Amico et al.			
	5,255,210	10/19/93	Gardner et al.			
	5,260,968	11/09/93	Gardner et al.			
	5,262,789	11/16/93	Silverstein			
	5,274,844	12/28/93	Harrison et al.			
	5,283,540	02/01/94	Myer			
	5,299,148	03/29/94	Gardner et al.			
	5,335,249	08/02/94	Krueger et al.			
	5,345,596	09/06/94	Buchenhorner et al.			

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## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
					YES	NO
7-170548	4/7/95	Japan	—	—		X

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

JS	Muhammed et al., "Direction of Arrival Estimation Using Antenna Arrays", 1996, The Bradley Dept. of Electrical Engineering, Mobile and Portable Radio Research Group, Section 3.8, pp. 64-71.
JS	vander Veen et al., "A Constant Modulus Factorization Technique for Smart Antenna Applications in Mobile Communications", SPIE 1994 "Advanced Signal Processing Algorithms, Architectures, and Implementations V", Vol. 2296, pp. 230-241.
JS	Talwar et al., "Recursive Algorithms for Estimating Multiple Co-Channel Digital Signals Received at an Antenna Array", Proc. Fifth Annual IEEE Dual Use Technologies and Applications Conference.

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## U.S. PATENT DOCUMENTS

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<i>DR</i>	5,361,303	11/01/94	Eatwell	—	—	
	5,367,559	11/22/94	Kay et al.			
	5,379,320	01/03/95	Fernandes et al.			
	5,387,915	02/07/95	Moussa et al.			
	5,423,072	06/06/95	Iwashita et al.			
	5,430,760	07/04/95	Dent			
	5,440,281	08/08/95	Wey et al.			
	5,448,621	09/05/95	Knudsen			
	5,457,812	10/10/95	Siira et al.			
	5,465,399	11/07/95	Oberholtzer et al.			
	5,471,647	11/28/95	Gerlach et al.			

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## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

<i>DR</i>	Papadias et al., "A Space-Time Constant Modulus Algorithm for SDMA Systems", 1996, Proceedings, IEEE 46th Vehicular Technology Conference, pp. 86-90.
<i>DR</i>	Talwar et al., "Blind Estimation of Multiple Co-Channel Digital Signals Arriving at an Antenna Array", 1993, Proc. 27th Asilomar Conference on Signals, Systems, and Computers, Vol. 1, pp. 349-342.
<i>DR</i>	Rashid-Farrokhi et al., "Joint Power Control and Beamforming for Capacity Improvement in Wireless Networks With Antenna Array", 1996 IEEE GLOBECOM 1996, Vol. 1, pp. 555-559.

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## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
PO	5,475,864	12/12/95	Hamabe			
	5,475,868	12/12/95	Duque-Anton et al.			
	5,497,505	03/05/96	Koohgoli et al.			
	5,515,378	05/07/96	Roy, III et al.			
	5,530,449	06/25/96	Wachs et al.			
	5,530,917	06/25/96	Andersson et al.			
	5,532,706	07/02/96	Reinhardt et al.			
	5,537,438	06/16/96	Mourot et al.			
	5,543,801	08/06/96	Shawyer			
	5,546,090	08/13/96	Roy, III et al.			
	5,548,813	08/20/96	Charas et al.			

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## FOREIGN PATENT DOCUMENTS

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					YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

PO	Rashid-Farrokhi et al., "Transmit Beamforming for Cellular Communication Systems", Conference on Information Sciences and Systems, CISS-97; 3/1997, 4 pages.
P	Rashid-Farrokhi et al., "Downlink and Uplink Capacity Enhancement in Power Controlled Cellular Systems", Proceedings, 1997 IEEE 47th Vehicular Technology Conference, Vol. 2, 5/97, pp. 647-651.
P	Rashid-Farrokhi et al., "Downlink Power Control and Base Station Assignment", IEEE Communications Letters, Vol. 1, No.4, 07/97, pp. 102-104.

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DATE CONSIDERED

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## U.S. PATENT DOCUMENTS

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0	5,555,445	09/10/96	Booth			
	5,557,657	09/17/96	Barnett			
	5,565,873	10/15/96	Dean			
	5,566,209	10/15/96	Forssen et al.			
	5,576,717	11/19/96	Searle et al.			
	5,592,490	01/07/97	Barratt et al.			
	5,596,625	01/21/97	LeBlanc			
	5,603,082	02/11/97	Hamabe			
	5,603,089	02/11/97	Searle et al.			
	5,606,729	02/25/97	D'Amico et al.			

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## FOREIGN PATENT DOCUMENTS

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## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

0	Rashid-Farrokhhi et al., "Transmit Diversity and Equalization for Power Controlled Wireless Networks", Conference Record 31st Asilomar Conference on Signals, Systems, and Computers, Vol. 1, 11/97, pp. 620-624.
0	Swidlehurst et al., "Analysis of a Decision Directed Beamformer", IEEE Transactions on Signal Processing, Vol. 43, No. 12, 12/95, pp. 2920-2927.

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TUAN ROY

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## U.S. PATENT DOCUMENTS

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DS	5,615,409	03/25/97	Forssen et al.	—	—	
	5,621,752	04/15/97	Antonio et al.			
	5,625,885	04/29/97	Nakazawa et al.			
	5,638,375	06/10/97	Dettro et al.			
	5,649,287	07/15/97	Forssen et al.			
	5,673,291	09/30/97	Dent			
	5,675,581	10/7/97	Soliman			
	5,678,188	10/14/97	Hisamura			
	5,684,836	11/04/97	Nagayasu et al.			
	5,689,219	11/18/97	Piirainen			
	5,689,502	11/18/97	Scott			

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DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
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DS	US98/25364, PCT Search Report, 05/11/99.

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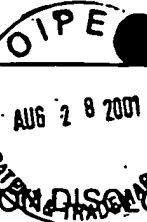
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<input checked="" type="checkbox"/>	5,694,416	12/02/97	Johnson	—	—	
<input checked="" type="checkbox"/>	5,726,978	03/10/98	Frodigh et al.	—	—	
<input checked="" type="checkbox"/>	5,742,904	04/21/98	Pinder et al.	—	—	
<input checked="" type="checkbox"/>	5,745,858	04/28/98	Sato et al.	—	—	
<input checked="" type="checkbox"/>	5,752,165	05/12/98	Hokkanen	—	—	
<input checked="" type="checkbox"/>	5,809,009	09/15/98	Matsuoka et al.	—	—	
<input checked="" type="checkbox"/>	5,809,019	09/15/98	Ichihara et al.	—	—	

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①	5,818,918	10/06/98	Fujii			
	5,819,182	10/06/98	Gardner et al.			
	5,825,762	10/20/98	Kamin, Jr. et al.			
	5,828,658	10/27/98	Ottersten et al.			
	5,845,212	12/01/98	Tanaka			
	5,867,123	02/02/99	Geyh et al.			
	5,884,148	03/16/99	Bilgic et al.			
	5,887,038	03/23/99	Golden			
	5,905,721	05/18/99	Liu et al.			
	5,909,470	06/01/99	Barratt et al.			
	5,914,946	06/22/99	Avidor et al.			

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08	5,930,243	07/27/99	Parish et al.			
	5,955,992	09/21/99	Shattil			
	5,970,394	10/19/99	Arpee et al.			
	5,973,638	10/26/99	Robbins et al.			
	5,999,826	12/07/99	Whinnett			
	6,005,854	12/21/99	Xu et al.			
	6,009,124	12/28/99	Smith et al.			
	6,018,317	01/25/00	Dogan et al.			
	6,018,643	01/25/00	Golemon et al.			

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ATTY. DOCKET NO.

015685.P031

SERIAL NO.

09/676,887

## INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

APPLICANT

Roger Rogard

FILING DATE

09/29/00

GROUP

2681

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
JO	6,023,203	02/08/00	Parish			
	6,061,553	05/09/00	Matsuoka et al.			
	6,064,865	05/16/00	Kuo et al.			
	6,067,324	05/23/00	Harrison			
	6,108,565	08/22/00	Scherzer			
	6,131,016	10/10/00	Greenstein et al.			
	6,154,661	11/28/00	Goldburg			
	6,185,412	02/06/01	Pentikainen et al.			
	6,192,256	2/20/01	Whinnett			

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## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
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## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)


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				Application Number	09/676,887
				Filing Date	September 29, 2000
				First Named Inventor	Roger Rogard
				Art Unit	2663
				Examiner Name	Not yet assigned
				Attorney Docket Number	15685P031
Sheet	1	of	2		

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				Application Number	097676,887
				Filing Date	September 29, 2000
				First Named Inventor	Roger Rogard
				Art Unit	2663
				Examiner Name	Not yet assigned
				Attorney Docket Number	15685P031
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Application Number	09/676,887
Filing Date	September 29, 2000
First Named Inventor	Roger Rogard
Group Art Unit	2681
Examiner Name	Not Yet Assigned
Attorney Docket Number	15685P031

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Sheet 1 of 1

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Application Number	09/676,887
Filing Date	September 29, 2000
First Named Inventor	Roger Rogard
Group Art Unit	2681
Examiner Name	Not Yet Assigned
Attorney Docket Number	15685P031

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2681

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Application Number	09/676,887
Filing Date	September 29, 2000
First Named Inventor	Roger Rogard
Group Art Unit	2681
Examiner Name	Unassigned
Attorney Docket Number	15685P031

Sheet 1 of 1

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		Application Number	09/676,887
		Filing Date	September 29, 2000
		First Named Inventor	Roger Rogard
		Art Unit	2663
		Examiner Name	Not yet assigned
		Attorney Docket Number	15685P031

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U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.†	Document Number	Publication Date or Issue Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code* (if known)			
D	1	US-5574977	11-12-1997	Joseph et al.	
	2	US-5619503	04-08-1997	Dent	
	3	US-5625880	04-29-1997	Goldburg et al.	
	4	US-5642353	06-24-1997	Roy III et al.	
	5	US-5684794	11-04-1997	Lopez et al.	
	6	US-5708971	01-13-1998	Dent	
	7	US-5870393	02-09-1999	Yano et al.	
	8	US-5884178	03-16-1999	Ericsson et al.	
	9	US-6037898	03-14-2000	Parish et al.	
	10	US-6141567	10-31-2000	Youssefmir et al.	
	11	US-6219561	04-17-2001	Raleigh	
	12	US-6292664	09-18-2001	Ostrup et al.	
	13	US-6337985	01-08-2002	Roux et al.	
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		Country Code* - Number* - Kind Code* (if known)				
D	14	EP 0 841 827 A2	05-13-1998			

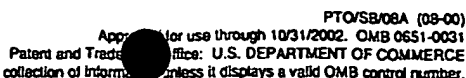
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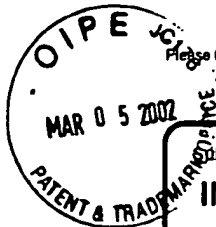
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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>				Application Number	09/676,887
				Filing Date	September 29, 2000
				First Named Inventor	Roger Rogard
				Group Art Unit	2681
				Examiner Name	Not Yet Assigned
Sheet	2	of	2	Attorney Docket Number	15685P031

OTHER ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.*	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T*
	1	Farsakh et al., "A REAL TIME DOWNLINK CHANNEL ALLOCATION SCHEME FOR AN SDMA MOBILE RADIO SYSTEM," IEEE International Symposium on Personal, Indoor and Mobile Radio Communications, Vol. 3, 10/18/96, pgs. 1215-1220.	
	2	Farsakh et al., "CHANNEL ALLOCATION AND DOWNLINK BEAMFORMING IN AN SDMA MOBILE RADIO SYSTEM," PIMRC '95, Wireless: Merging onto the Information Superhighway, 6th IEEE International Symposium on Toronto, Ont., Canada, 9/27-29/95, pgs. 687-691.	
	3	Gerlach et al., "BASE STATION TRANSMITTER ANTENNA ARRAYS WITH MOBILE TO BASE FEEDBACK," IEEE Asilomar Conference on Signals, Systems & Computers, 1993, pgs. 1432-1436.	

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Application Number	09/676,887
Filing Date	September 29, 2000
First Named Inventor	Roger Rogard
Group Art Unit	2681
Examiner Name	Not Yet Assigned
Attorney Docket Number	15685P031

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				Application Number	09/676,887
				Filing Date	September 29, 2000
				First Named Inventor	Roger Rogard
				Group Art Unit	2681
				Examiner Name	Not Yet Assigned
				Attorney Docket Number	15685P031
Sheet	2	of	2		

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Examiner Name	Unassigned
Attorney Docket Number	15685P031

Sheet	1	of	2
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